In [1]:
```
import matplotlib.pyplot as plt
import pandas as pd
import numpy as np
%matplotlib inline
```

In [2]:
```
df = pd.read_csv('train.csv', sep=',',header=0)
```

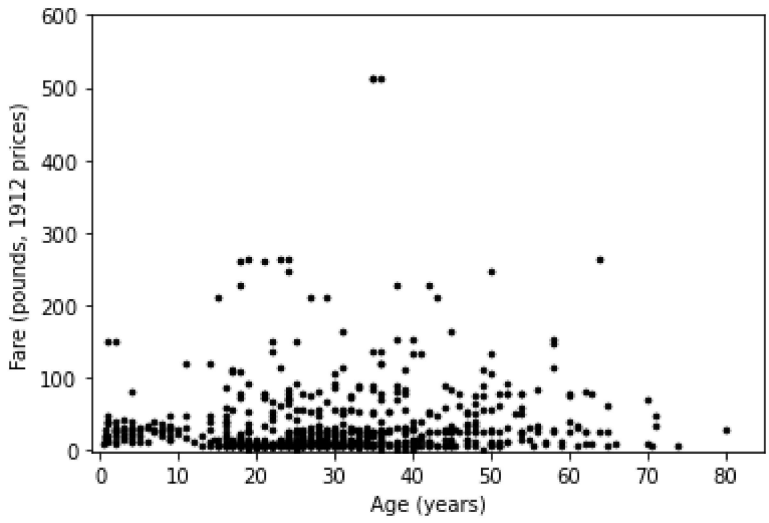
In [3]:
```
print(df.shape)
df.head(n=3)
```

```
(891, 12)
```

Out[3]:

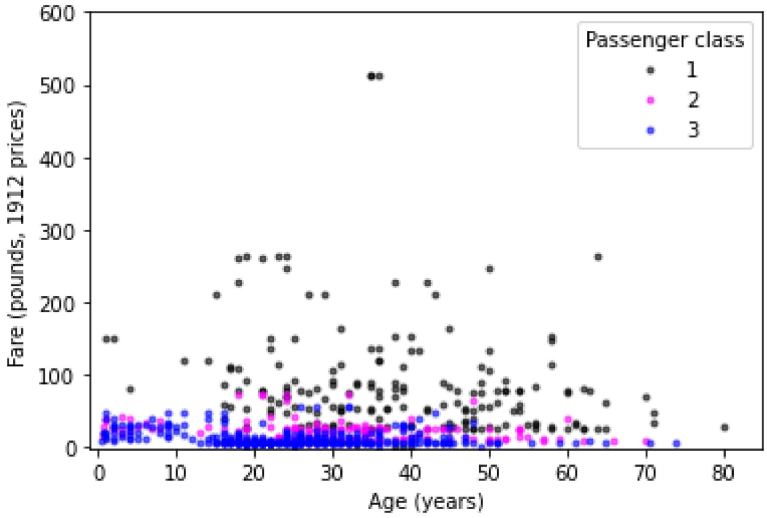
	PassengerId	Survived	Pclass	Name	Sex	Age	SibSp	Parch	Ticket	Fare	Cabin	Em
0	1	0	3	Braund, Mr. Owen Harris	male	22.0	1	0	A/5 21171	7.2500	NaN	
1	2	1	1	Cumings, Mrs. John Bradley (Florence Briggs Th...	female	38.0	1	0	PC 17599	71.2833	C85	
2	3	1	3	Heikkinen, Miss. Laina	female	26.0	0	0	STON/O2. 3101282	7.9250	NaN	

In [4]:
```
df_scatter = df.plot.scatter('Age', 'Fare', c = "black", s = 7)
plt.xlabel('Age (years)')
plt.ylabel('Fare (pounds, 1912 prices)')
df_scatter.set_xlim(-1, 85)
df_scatter.set_ylim(-1, 600)
plt.show(df_scatter)
```

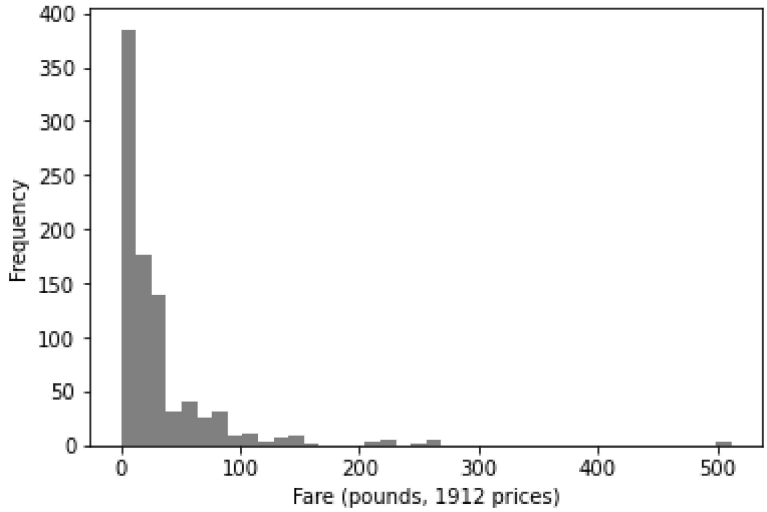


In [9]:
```
df_pcalss_fig, df_pcalss_ax = plt.subplots()
color = ['black', 'magenta', 'blue']
count = 0
for name, group in df.groupby('Pclass'):
    df_pcalss_ax.plot(group.Age, group.Fare, '.',
                              label = name, alpha = 0.6,
                              c = color[count])
    count += 1
df_pcalss_ax.legend(numpoints=1, title = "Passenger class", fontsize = 10)
plt.xlabel('Age (years)')
plt.ylabel('Fare (pounds, 1912 prices)')
df_pcalss_ax.set_xlim(-1, 85)
df_pcalss_ax.set_ylim(-1, 600)

plt.show(df_pcalss_fig)
```

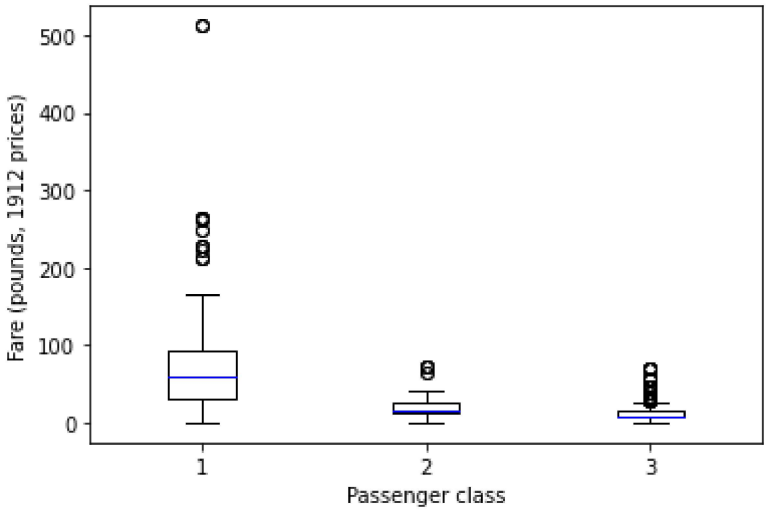


In [11]:
```
df_hist = df.Fare.plot.hist(bins = 40, color = 'grey')
plt.xlabel('Fare (pounds, 1912 prices)')
plt.show(df_hist)
```



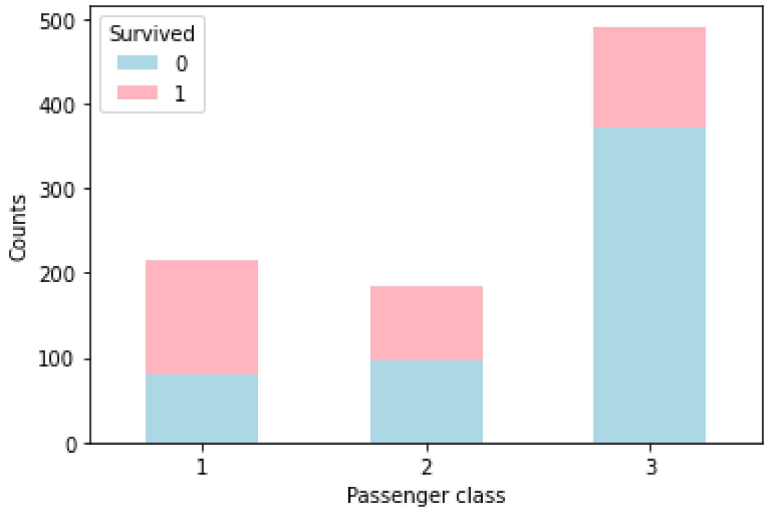
In [12]:
```
pclass_fare_df = df[['Pclass', 'Fare']].pivot(columns = 'Pclass', values = 'Fare')
box_color = dict(boxes = 'black',
             whiskers = 'black',
```

```
                medians = 'blue',
                caps = 'black')
df_pclass_boxplot = pclass_fare_df.plot.box(color = box_color)
plt.xlabel('Passenger class')
plt.ylabel('Fare (pounds, 1912 prices)')
plt.show(df_pclass_boxplot)
```



In [13]:

```
contingency_df = df.groupby(['Pclass', 'Survived']).size().unstack()
df_barplot = contingency_df.plot.bar(stacked=True,
                                     color = ["lightblue", "lightpink"])
plt.ylabel("Counts")
plt.xlabel('Passenger class')
plt.xticks(rotation=0)
plt.show(df_barplot)
```



In [ ]: